

## Day Hospitals and Cost of Effective Treatment

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**Abstract:** The duration of unnecessary hospitalization of a patient in hospital not only increases the expenditure of stay in hospital but also decreases the resources available for the patients with critical status and exposes the patients to hospital infections, apart from the mentioned issues, the unacceptable presence of patient in hospital includes several dimensions socially such as inactivation of Labor and the loss caused by it, emotional and mental damages to the family and reduction of output in hospitalization units. One good solution to this problem is establishing daytime hospitals. Therefore, this Research focuses on decreasing duration of hospitalization in General and private hospitals as well as Clinics and performing a contrastive study based on the model of Daytime hospitals. This Research is a descriptive-analysis study, which studies the specifications of statistical society as field study and analyzes the duration of staying in hospital exploiting the techniques of data collectives. The statistical societies included General, Day Clinics and private hospitals of Tabriz, which represent Adenotonsllectomy and Cataract services. Of this society one hospital was regarded as sample and after collection, the relevant data were included in SPSS Software. Considering the aim of research, in this study the Non-parametric Kruskal-Wallis test was used for Adenotonsllectomy and Cataract services in the level of descriptive statistics and the duration of patient's hospitalization was compared regarding the abnormal data. Result of studies indicated that 52.9% of the patients were male and 47.1% were female, with average stay period of  $1.60 \pm 0.929$  in General Education Centers and  $1.88 \pm 0.735$ , in private hospitals,  $1.00 \pm 0.00$  and  $1.70 \pm 0.470$  in Day Clinics for Adenotonsllectomy and Cataract. Based on Kruskal-Wallis test, the findings showed that in 3 groups (General, private and Day Clinics), Adenotonsllectomy and Cataract services are significant ( $p < 0.005$ ). The results of dual comparison using Mann-Whitney U Test indicated that the duration for Adenotonsllectomy and Cataract services were very different in General, private and Day Clinic centers such that this period is significantly less in private hospitals and Day Clinics ( $p < 0.005$ ). However, the duration of stay does not show a significant difference for this service in Day Clinics and private hospitals ( $p < 0.005$ ). However the same comparison for Cataract services showed that there were no significant difference between period of stay in General educational centers and private hospitals ( $p > 0.005$ ). But, the regarding the stay period for Cataract service, there are significant differences statistically between private hospitals and Day Clinics ( $p < 0.005$ ). According to the results, in order to reduce costs and to achieve effective treatment and better performance, establishment of Day Clinics is of great importance which in term will help to reduce the unnecessary hospitalization period and lower side problems for patients and these bed circulation and data. Flow exchange will sped up and expectation time will be shorter, causing maximum lively hood and self-confidence of patients and falls hospitalization.

**Key words:** Day hospital, period of stay, cost, treatment, effective

### INTRODUCTION

Hygiene and treatment are the most important sectors in the country, which influence the health of the people in society and prevent from different abnormalities (Puraga, 2004).

Therefore, in the countries people's health and the way of health protection without regarding their vast and wealth is an important issue which charges the health authorities to represent the highest quality protection in the domain of available resources and then the performed activities to attain the health aims are evaluated.

Modern Health care centers, are Very Complex systems, in which any individual performance as a part of the system should consider the benefit of both patient and Health Care Organization. Naturally, Getting rid of any misuses of these Services is a better way of decreasing Costs, with out damaging the treatment quality, which in term supports both Health care serving Organs and patients. This necessity becomes essential when the care-giving organ is facing limited funds (Karimi, 2006)

Among the organizations representing these services, the hospitals are the essential and at the same time the costly organizations such that the hospitalization unit among other units has the most cost (Griffin, 1996), hence different systems seek for reducing the hospital beds and under sizing the hospitals to reduce costs.

To reduce the costs and to improve the cost of efficacy in the hospital and increasing the performance cost of it. It is possible to reduce the time of unnecessary hospitalization since the unnecessary hospitalization days not only increases the cost of stay in the hospital but also reduces the available resources for the patients with critical status and exposes the patients to the hospital infections; apart from the mentioned issues, the un acceptable presence of the patient in the hospital includes various aspects socially such as inactivating the work force of the society and the loss caused by it, emotional and mental losses of the families and reduction of proper service in hospitals (Karimi, 2006).

However, through shortening the duration of hospitalization, apart from reinforcing the economic force and the technical personnel of the society, the false occupation of the beds is reduced and the expectation time of the patients is influenced which has valuable results and helps the mental health of the people accompanied with the patients and the society.

Considering the above mentioned cases and since the unnecessary hospitalization of the patients causes so many problems for the person and the hospital, various programs in the world are being executed which reduce false utilization of the hospital beds; one of these programs is to establish Day hospitals. In Generally, Day hospitals introduce new diagnostic services, which represent some services beyond the traditional patient productions.

In fact, Day hospitals act intermediately in considering the outpatients and in-patients and the hospital Services the patients who are improved and does not admit the patients with acute illnesses or those who do not react to the short -time treatments (Corominas, 2000).

So considering the above cases since there was information about Day hospitals of east Azerbaijan in this study, the researchers intend studying the hospitalization period of the patient in General, educational centers, Day Clinics and private hospitals of Tabriz based on the model of Day hospital in 1386 and determine the period of hospitalization by representing the rate of efficacy so that it may help decision makers of the health sector of the society seek for the solution of being efficient through reducing the duration of false stay of the patients and increasing the potential and personal independence of the people in these hospitals, because in these kinds of hospitals, the patients can preserve their personal independence and connect with the society continuously.

These kinds of hospitals preserve the patient in a level so that the ability of daily activities is accomplished (Zipfel, 2001).

Furthermore, a strong communicational network is established between friends and the family of the patient to which acts as informer at night and during the week.

In these hospitals, partial hospitalization allows the patients to continue their social Activities in order to reinforce self-confidence and independence of patients.

In addition, it allows the patients to contact with their families and surroundings and do not become far among from them, while in the traditional hospitalization, the patient passes nights or weeks far from the family and social environment.

In these kinds of hospitals, the patients under treatment have more motivation for improvement Also establishing such hospitals is effective for the hospital itself since its programs contains a solution to compensate the bed shortage for the patient who need alternative protection and its treatment programs with less cost causes obtaining more patients which not only is of extra profit for the hospitals but also causes the satisfaction of patients and staff and is a factor to create employment in the society

For example, Wong's (1998) study at Alexander Day hospital in Singapore on adult rehabilitation showed that, satisfactory treatments for rehabilitation had been effectively carried out. Also another study at Lenston clinic, U.K. by Allan *et al.* (2000), about drunken patient proved the effectiveness of Day Hospital's such as Home Detoxification.

## MATERIALS AND METHODS

This study is a descriptive-analytical research its aim is the objective, concrete and regular description of a situation or an issue; in other words in this study the

researcher has attempted to report what exists without any interference or subjective extraction and extract the objective results from reality.

In the present investigation, the period of hospitalization in General educational centers, Day Clinics and private hospitals of Tabriz were studied and based on this the statistical society specifications have been studied in field study and the statistical sample and answer to the questions and Generalization of the results have been analyzed without any interference of the researcher for the purpose of determining the stay period in General and private hospitals as well as Day Clinics whether this time is concordant with Day hospital model.

The statistical society included General and private hospitals of Tabriz as well as Day Clinics which represent Adenotonsllectomy and Cataract services; in the society for every service a hospital was regarded as sample and was studied for hospitalization period such that the individual samples were studied by referring to the place for Adenotonsllectomy and Cataract and the data were included in SPSS software and analyzed.

Considering that in this study the main objective was to determine the stay duration of the patients in General and Private centers as well as Day Clinics for Adenotonsllectomy and Cataract services, to attain the objectives it was preceded in 2 phases.

In the first phase, using the data in the descriptive statistical level to obtain, the first, second and third specific objectives were accessed to determine the hospitalization period of the patients in General and private centers and Day Clinics for Adenotonsllectomy and Cataract services and in the second phase the Non-Parametric Kruskal-Wallis test was used for comparing the hospitalization period due to abnormal data to access the 4th objective.

Comparing the hospitalization period of the patients in General, private centers and Day Clinics for Adenotonsllectomy and Cataract services.

**RESULTS AND DISCUSSION**

In this study, 52.9% of the subjects were male and 47.% were female with the age average of 58.38±26091.

The statistical studies showed that the average of stay for Adenotonsllectomy in General centers was 1.60±0.929 days in private hospitals and Day Clinics was 1.00±0.00 days; the maximum hospitalization period in General educational centers was 5 days and in private hospitals and Day Clinics was one day (Table1).

In addition, the statistical study for Cataract indicated that the average of hospitalization in General hospitals was 1.88±0.735 days; in private hospitals, 1.70±0.470 and in Day Clinics it was 1.00±0.00 day; the maximum

Table 1: Frequency of hospitalization for Adenotonsllectomy

| Hospitalization period for Adenotonsllectomy | No. | Mean | S.D   | Max | Min |
|--|-----|------|-------|-----|-----|
| General medical centers                      | 43  | 1.60 | 0.929 | 5   | 1   |
| Private                                      | 80  | 1.00 | 0.00  | 1   | 1   |
| Day Clinics                                  | 318 | 1.00 | 0.00  | 1   | 1   |

Table 2: Frequency of hospitalization for Cataract

| Hospitalization period for cataract | No. | Mean | S.D   | Max | Min             |
|-------------------------------------|-----|------|-------|-----|-----------------|
| General medical centers             | 330 | 1.88 | 0.735 | 6   | Less than 1 day |
| Private                             | 20  | 1.70 | 0.470 | 2   | 1               |
| Day Clinics                         | 318 | 1.00 | 0.00  | 1   | 1               |

hospitalization in General educational centers was 6 days, in private hospital 2 days and in Day Clinics one day (Table 2).

Furthermore, the statistical studies for comparing the hospitalization of patients on Adenotonsllectomy and Cataract in General and private hospitals as well as Day Clinics based on Kruskal-Wallis test showed that the hospitalization period for Adenotonsllectomy and Cataract in 3 groups (General, private and Day Clinics) is significant (p≤0.005) (Table 3).

Considering the significance of hospitalization for Adenotonsllectomy and Cataract services in 3 groups of General and private hospitals and Day Clinics, the findings related to dual comparis on of these groups for better conclusion based on the complementary test of laman vetiny showed that there is a significant difference on the duration of hospitalization in General centers than private hospitals and Day Clinics for Adenotonsllectomy services.

In other words with the validity of more than 99% there was a significant difference between average of hospitalization in these 3 groups and the hospitalization time in private hospitals and Day Clinics is less than General educational centers (p≤0.005).

However, the hospitalization period of the patients for the same services is identical in private hospitals than the Clinics and there is no significant difference between these 2 groups (p≥0.005) (Table 4).

In addition the findings relevant to Cataract service indicate that there is a significant difference between the hospitalization duration of patients in Day Clinics than that in private hospitals and General canthers (p≤0.005).

Where there is statistical significant between the average of hospitalization period in General educational centers and private ones (p≥0.005).In other words, there has been a statistical significant difference between average of hospitalization in Day Clinics and General and private hospitals such that the average hospitalization of the patients in Day Clinics is less than General centers on Cataract service, while the average of patients hospitalization for the same service is identical in General educational centers than private hospitals and there is no significant difference between 2 groups (Table 5).

Table 3: Results of kruskal-wallis test for adenotonsillectomy and cataract services

| Services           | Hospitalization period in | No. | Mean of ranks | Chi- Square | df | Significance level |
|--------------------|---------------------------|-----|---------------|-------------|----|--------------------|
| Adenotonsillectomy | General Centers           | 43  | 143.40        | 47.17       | 2  | 0.001              |
|                    | Private hospitals         | 80  | 100.50        |             |    |                    |
|                    | Day Clinics               | 94  | 100.50        |             |    |                    |
| Cataract           | General instructional     |     |               | 337.53      | 2  | 0.001              |
|                    | Medical canters           | 330 | 448.03        |             |    |                    |
|                    | Private hospitals         | 20  | 424.85        |             |    |                    |
|                    | Day Clinics               | 318 | 241.00        |             |    |                    |

Table 4: Results of mann whitney u test for adenotonsillectomy

|  |                   | Rate of Z | Significance |
|--|-------------------|-----------|--------------|
| General instructional and medical center | Private hospitals | -6.018    | 0.001*       |
| General instructional and medical center | Day Clinics       | -6.476    | 0.001*       |
| Private hospitals                        | Day Clinics       | 0.000     | 1.000        |

Table 5: Results of mann whitney u test for cataract service

|  |                   | Rate of Z | Significance |
|--|-------------------|-----------|--------------|
| General instructional and medical center | Private hospitals | -1.069    | 0.258        |
| General instructional and medical center | Day Clinics       | -18.214   | 0.001*       |
| Private hospitals                        | Day Clinics       | -15.216   | 0.001*       |

## DISCUSSION

One of the most important duties of managers is the allocation of financial resources and maximum exploitation from the facilities. The important of this issue is felt when the organization faces the deficiency of facilitating and financial resources.

Most of the countries face increasingly weaknesses in health sector.

In the interim, to increase the efficiency of performance, removing useless application of health services is one of the methods of limiting health costs without damaging the more effective health care and joy of the people in society; hospitals are one of the most essential and costly server organizations in which hospitalization unit is the most expensive unit and its per capita is higher which reduces the efficiency of performance (Iraj and Agdas, 2007).

To reduce costs and to improve the efficiency in hospitals and to increase its performance efficiency, the unnecessary hospitalization duration should be reduced (Iraj and Agdas, 2007). Since, the unnecessary duration causes more problems to the person and hospital and for this purpose, Various programs are executed throughout the world so that false utilization of the hospital beds are reduced, By means of establishing Day hospitals.

So, different systems intend reducing hospital beds and undersizing the hospitals to enhance their efficiency.

For this purpose the unnecessary hospitalization time of the patient in the hospital is reduced.

The relationship between illness and type of treatment is important which causes service to the

patients and it is based on this correlation which the demander selects the kind of treatment protection and again it is based on this correlation that the countries have established all kinds of Day hospitals to protect the cardiac, respiratory, nurishment, the old and children days hospitals (Wong *et al.*, 1998).

Findings obtained from the investigations have shown that reduction of costs and improvement of the efficiency in hospitals and enhancement of performance efficiency of hospitalization is possible by using Day hospitals.

The results conducted in this field show that by founding the Day hospitals in Antaria in 1999 as a strategy to adopt the patients hospitalized as false in the hospital, the hospitalization time can be reduced without having harmful effects on the treatment results, this increases the efficiency of treatment and content of patient (Stephan *et al.*, 2001).

Also in other study performed in Germany on Day hospitals of nutrition it was shown that 57% of the patients admitted in Day hospitals, their illness signs is controlled with in less than 4 weeks which enhances the person's morale and the patient efficiency (Wong *et al.*, 1998).

Similar study in Canada showed that over the first 16 months of establishing Day hospitals, of 320 referd patient, 160 persons (57.6%) were rapidly admitted which resulted in optimized using of the financial resources, beds and other necessary equipments and beds for long hospitalization.

Based on the current study it can be declared that the Day hospital or these Day Clinic study has been able to reduce the hospitalization time for Adenotonsillectomy and Cataract; this result is concordant with the mentioned results.

Day hospitals perform as a bridge between out-patient cures and hospitalization cases and reduces the burden of other hospital units as complementary (Antoni *et al.*, 2000).

Day hospitals use all of the health structures in the realm of hospital to help the patient so that less displation is created for the patient and health protections like prevention, vaccination etc. are accomplished.

Also the studies verify that Day hospitals are not free from limitation; of the limitations of these hospitals is the lack of their fruitfulness about those who have family difficulties and perceive the hospital a safe place for their cure or they are helpless but their profitability is comparable by index CFDF.

### CONCLUSION

So, based on the investigational results, to reducing the costs and improving the efficiency and as the result of raising the performance, it is possible to reduce the unnecessary hospitalization and reduce the problems.

Therefore, based on the results of this study and the studies performed as the background of study it can be suggested that by establishing Day hospitals the hospitalization burden of the patients is reduced and bed circulation is increased which in turn not only increases the efficacy of the hospital but also reduces the expectation time of patient, data flow and returning maximum independence of the life fastly and reducing extra hospitalization.

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